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| 10/591,207 | 11/14/2006 | Juntao Wang | HW254172 | 6631 |

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| EXAMINER | |
|---|---|
| ANWAR, MOHAMMAD S | |
| **ART UNIT** | **PAPER NUMBER** |
| 2463 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Chgpatent@leydig.com

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/591,207 | WANG ET AL. | |
| | Examiner | Art Unit | |
| | MOHAMMAD ANWAR | 2463 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *14 April 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 4/14/10 have been fully considered but they are not persuasive. Please see response below:

In response to applicant arguments, Firstly, Saleh fails to disclose or suggest feature (C) of claim 1. In rejecting claim 1, the Office Action further cites column 7, lines 19-27 of Saleh and asserts that it discloses the features (C) of claim 1. To the contrary, Saleh does not teach these claimed features for the following reasons. Column 7, lines 19-27 recites "the destination node of the VP ... forwards failure notification to the source node of the VP," "when the node receives a notification of a VP failure" (column 7 line 13). It can be seen that: the "VP" is between "the source node of the VP" and "the destination of the VP," therefore the "VP" of Saleh is similar to the "work path" which is "between a source node and a work destination node" of claim 1, NOT a link connecting the destination node to a data device. Thus, Saleh at best describes a destination node "receives a notification of a VP failure," i.e. of a work path failure, and "forwards the failure notification to the source node of the VP," i.e. the source node of the work path. It can be seen that Saleh fails to disclose or suggest the claimed feature of "the work destination node and the protection destination node detecting respectively the failure of the links connecting themselves to a data device," i.e., feature (C) of claim 1. Further, as analyzed above, Saleh describes a destination node receives a notification of a work path failure and forwards the failure notification to the source node of the work path, thus fails to disclose or suggest the claimed feature of "the source node detecting

a failure state of links of the work path and the protection path," i.e. feature (B) of claim 1. Therefore, Saleh fails to disclose or suggest features (B) and (C) of claim 1 (see Saleh Figures 5 and 6 which clearly shows the source node detecting failure of paths or links; Saleh et al. column 7 lines 19-27, disclose destination nodes (any type either working or protecting) reporting failure to source node; see also Patil et al. column 13 lines 40-50 disclose failure messages from destination port to originating port).

In response to applicant arguments, Secondly, Mekkittikul fails to disclose or suggest feature (B) of claim 1. In rejecting claim 1, the Office Action further cites para. 27 of Mekkittikul and asserts that it discloses the features (B) of claim 1. To the contrary, Mekkittikul does not teach these claimed features for the following reasons. Paragraph 27 of Mekkittikul recites "the transmission from node m to node n on the clock-wise ring fails ... after detecting the failure, node n immediately broadcasts failure notification message." It can be seen that the "node n" is a downstream node of the transmission, so the "node n" is NOT a source node of the transmission path. Therefore, Mekkittikul fails to disclose or suggest the claimed feature of "the source node detecting a failure state of links of the work path and the protection path," i.e. feature (B) of claim 1. Further, since Mekkittikul, which bears the title of "Bi-directional flow-switched ring," focuses on failures occurred on the ring network which is composed of a work ring and a protection ring, and fails to disclose or suggest another type of failure, i.e. failures on links connecting the work/protection destination node to a data device, i.e., Mekkittikul fails to disclose or suggest the feature (C) of claim 1. (see Saleh column 3 lines 7-8, discloses failure of paths or links).

## *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1,2, 4-8, 11, 13-15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patil et al. (U.S. Patent No. 7,313,087 B2) in view of Saleh et

al. (U.S. Patent No. 7,477,594 B2) and Mekkittikul et al. (U.S. PGPub. No. 2004/0179471).

**For claim 1**, Patil et al. disclose establishing a work path for transporting a service between a source node (see Figure 1 (14), a source node) and a work destination node (see Figure 1 (20), a work destination node) of the service in the Metropolitan Area Transport Network; setting a node other than the work destination node as a protection destination node (see Figure 1 (24), protection destination node); establishing a protection path between the source node and the protection destination node for protecting the service in the work path (see Figure 1, column 4 lines 11-18 and lines 23-31); switching the data service in the work path to the protection path by the source node when the failure state of the link of the work path or the failure state of a node in the link is detected or a failure state notice of the work destination node is received (see column 2 lines 19-33). Patil et al. disclose all the subject matter but fails to mention the source node detecting a failure state of links of the work path and the protection path and a failure state of a node in the links of the work path and the protection path; the work destination node and the protection destination node detecting respectively the failure of the links connecting themselves to a data device, if there is the failure, notifying the source node. However, Saleh et al. from a similar field of endeavor disclose the work destination node and the protection destination node detecting respectively the failure of the links connecting themselves to a data device, if there is the failure, notifying the source node (see column 7 lines 19-27, destination nodes report the failure to source node and connecting themselves to

secondary path switching devices). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Saleh et al. failure notification scheme into Patil et al. alternate destination node scheme. The method can be implemented in a packet. The motivation of doing this is to notify source node of a link or node failure (see column 7 line21). Patil et al. and Saleh et al. disclose all the subject matter but fails to mention the source node detecting a failure state of links of the work path and the protection path and a failure state of a node in the links of the work path and the protection path. However, Mekkittikul et al. from a similar field of endeavor disclose the source node detecting a failure state of links of the work path and the protection path and a failure state of a node in the links of the work path and the protection path (see para. 27, detects failure on primary first ring as well as secondary ring in a metropolitan network). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Mekkittikul et al. failure detection scheme into Patil et al. and Saleh et al. failover scheme. The method can be implemented in a failover mechanism. The motivation of doing this is to detect failure and redirect traffic (see para. 29).

**For claim 2**, Patil et al. disclose all the subject matter but fails to mention one protection path providing a protection for multiple work paths; and the work path with the highest priority being switched to the protection path when the multiple work paths are out of Work at the same time. However, Saleh et al. from a similar field of endeavor disclose one protection path providing a protection for multiple work paths (see column 5 lines 1-2); and the work path with the highest priority being switched to the protection

path when the multiple work paths are out of Work at the same time (see column 2 lines 64-67, restoration priority level). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Saleh et al. priority scheme into Patil et al. alternate destination node scheme. The method can be implemented in a restoration scheme. The motivation of doing this is to prioritize traffic in case of failover restoration process (see column 2 lines 66-67).

**For claim 4**, Patil et al. disclose further comprising: when the source node detects that the failure of the work path has been eliminated or the source node receives a notice that the failure of the work path has been eliminated, switching the services from the protection path to the work path (see column 6 lines 52-56).

**For claim 5**, Patil et al. disclose after the source node switches the work path to the protection path, the source node setting the protection path as the current work path, and setting the work path before the switching as the protection path (see column 7 lines 53-55, soft connection establishing primary and alternate routes).

**For claim 6, 11, 13 and 14**, Patil et al. disclose wherein the work destination node and the protection destination node are connected to the same data device (see Figure 1 (16)).

**For claim 7, 15, 17 and 18**, Patil et al. disclose wherein the work destination node and the protection destination node are connected to different data devices which are connected with each other (see Figure 1 (18,41)).

**For claims 8 and 19**, Patil et al. and Mekkittikul et al. disclose all the subject matter but fails to mention wherein, the step of notifying the source node comprises: the

work destination node and the protection destination node notifying the source node by means of signaling after detecting a failure state of the link; and further comprising: the work destination node and the protection destination node notifying the source node by means of signaling after detecting a recovery from a failure state. However, Saleh et al. from a similar field of endeavor disclose wherein, the step of notifying the source node comprises: the work destination node and the protection destination node notifying the source node by means of signaling after detecting a failure state of the link (see column 7 lines 19-27); and further comprising: the work destination node and the protection destination node notifying the source node by means of signaling after detecting a recovery from a failure state (see column 6 lines 3-5). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Saleh et al. failure notification scheme into Patil et al. alternate destination node scheme. The method can be implemented in a packet. The motivation of doing this is to notify source node of a link or node failure (see column 7 line 21).

5. Claims 3, 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patil et al. in view of Saleh et al. and Mekkittikul et al. as applied to claim 1 above, and further in view of Swinkels et al. (U.S. Patent No. 6,795,394 B1).

**For claim 3**, Patil et al., Saleh et al. and Mekkittikul et al. disclose all the subject matter but fails to mention further comprising: when the work path runs well, the source node transporting extra data services via the protection path, and when the work path is switched to the protection path, stopping the extra data services. However Swinkels et

al. from a similar field of endeavor disclose further comprising: when the work path runs well, the source node transporting extra data services via the protection path (see column 5 lines 41-43), and when the work path is switched to the protection path, stopping the extra data services (see column 5 lines 49-54). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Swinkels et al. data scheme into Patil et al., Saleh et al. and Mekkittikul et al. fault recovery scheme. The method can be implemented in the network configuration. The motivation of doing this is to use idle protection bandwidth for extra traffic (see column 2 lines 35-36).

**For claim 12**, Patil et al. disclose wherein the work destination node and the protection destination node are connected to the same data device (see Figure 1 (16)).

**For claim 16**, Patil et al. disclose wherein the work destination node and the protection destination node are connected to different data devices which are connected with each other (see Figure 1 (18 and 41)).

6. Claims 9-10 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patil et al. in view of Saleh et al. and Mekkittikul et al. as applied to claims 1, 6, 7, 18 and 19 above, and further in view of Trudel et al. (U.S. Patent No. 7,450,497).

**For claims 9 and 20**, Patil et al., Saleh et al. and Mekkittikul et al. disclose all the subject matter but fails to mention wherein, the work destination node and the protection destination node adopt an confirmation mechanism when notifying the source

node by means of signaling and keep on sending the failure state information to the source node until receiving the confirmation information from the source node. However Trudel et al. from a similar field of endeavor disclose wherein, the work destination node and the protection destination node adopt an confirmation mechanism when notifying the source node by means of signaling (see column 16 lines 10-25 where ACK/NACK is defined for confirmation mechanism), and keep on sending the failure state information to the source node until receiving the confirmation information from the source node (see column 16 line 19). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Trudel et al. signaling scheme into Patil et al., Saleh et al. and Mekkittikul et al. protection scheme. The method can be implemented in a signaling protocol. The motivation of doing this is to protect data traffic in working path (see column 3 lines 4-5).

**For claims 10 and 21**, Patil et al., Saleh et al. and Mekkittikul et al. disclose all the subject matter but fails to mention wherein the signaling comprises: Ethernet Operation Administrative and Maintenance (OAM) signaling and Multiprotocol Label Switching (MPLS) OAM signaling. However Trudel et al. from a similar field of endeavor disclose wherein the signaling comprises: Ethernet Operation Administrative and Maintenance (OAM) signaling and Multiprotocol Label Switching (MPLS) OAM signaling (see column 1 lines 20-24). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Trudel et al. signaling scheme into Patil et al., Saleh et al. and Mekkittikul et al. protection scheme. The method can be

implemented in a signaling protocol. The motivation of doing this is to protect data traffic in working path (see column 3 lines 4-5).

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MOHAMMAD ANWAR whose telephone number is (571)270-5641. The examiner can normally be reached on Monday-Thursday, 9am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derrick W. Ferris can be reached on 571-272-3123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MOHAMMAD ANWAR
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